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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/734,658

Applicant(s)

HILLIS ET AL.

Examiner

Arpan P. Savla

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-850)
- Paper No(s)/Mail Date 12/11/03, 3/29/07, 4/23/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The instant application having Application No. 10/734,658 has a total of 50 claims pending in the application, there are 2 independent claims and 48 dependent claims, all of which are ready for examination by the Examiner.

INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

1. Applicant's oath/declaration has been reviewed by Examiner and is found to conform to the requirements prescribed in 37 CFR 1.63.

INFORMATION CONCERNING DRAWINGS

Drawings

2. Applicant's drawings submitted December 11, 2003 are acceptable for examination purposes.

ACKNOWLEDGMENT OF REFERENCES CITED BY APPLICANT

Information Disclosure Statement

3. As required by MPEP § 609(c), Applicant's submission of the Information Disclosure Statements dated December 11, 2003, March 29, 2007, and April 23, 2007 are acknowledged by Examiner and cited references have been considered in the examination of the claims now pending. As required by MPEP § 609 c(2), a copy of the PTOL-1449 initialed and dated by Examiner is attached to the instant Office action.

OBJECTIONS

Specification

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it is not descriptive. The abstract provided in this application should at least provide the technical disclosure of the improvement and also concise details of the organization and/or operation of the system. Correction is required. See MPEP § 608.01(b).

5. The section entitled "Cross-Reference to Related Applications" must properly identify all co-pending applications with their corresponding application numbers (i.e. serial numbers).

Appropriate correction is required.

Claims

6. **Claims 23 and 48** are objected to because there should be a period at the end of the claims.

Appropriate correction is required.

REJECTIONS NOT BASED ON PRIOR ART

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 10, 11, 14, 15, 35, 36, 39, and 40** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. **As per claims 10, 11, 35, and 36**, the term "substantially complete" is a relative term which renders the claim indefinite. The term "substantially complete" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purposes of examining the instant application, the

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Examiner will interpret the term to "substantially complete" to instead refer to "complete."

10. **As per claims 14, 15, 39, and 40**, the term "practicably minimized" is a relative term which renders the claim indefinite. The term "practicably minimized" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purposes of examining the instant application, the Examiner will interpret the term to "practicably minimized" to instead refer to "minimized."

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1-4, 9-15, 17-21, 26-29, 34-36, 39, 40, and 42-46** are rejected under 35

U.S.C. 103(a) as being unpatentable over Miller et al. (U.S. Patent 5,920,701)

(hereinafter "Miller") in view of Jaeger (U.S. Patent 6,345,028).

13. **As per claim 1**, Miller discloses a method comprising:

publishing a schedule of content transmission, the schedule identifying the content by one or more times (col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114);

transmitting the at least one content to a temporal data storage system in accord with the published schedule (col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46). *It should be noted that the "tape drives" within the "replicated servers" are analogous to a "temporal data storage system."*

Miller does not disclose reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission.

Jaeger discloses reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission (col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that the "data signals/tracks" are analogous to the "at least one content" and that the "disk drive" is analogous to a "spatial data storage system."*

Miller and Jaeger are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Jaeger's reordering of data signals within Miller's content source's hard disk drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of maximizing the number of data signals that can be transmitted from a disk drive by minimizing seek time of the disk drive head.

Therefore, it would have been obvious to combine Miller and Jaeger for the benefit of obtaining the invention as specified in claim 1.

14. **As per claim 2**, the combination of Miller/Jaeger discloses said publishing a schedule of content transmission, the schedule identifying the content by one or more times further comprises:

printing the schedule of content transmission on a medium (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114); *It should be noted that act of "transmitting" the "distribution schedule" across the "communication links" anticipates the act of "printing the schedule of content transmission on a medium" because the distribution schedule is reproduced ("printed") on the communication link ("medium").*

and distributing the medium to one or more sites associated with one or more associated data switch controllers (Miller, col. 3, lines 1-2; col. 13, lines 4-9; Fig. 3, element 114; col. 5, lines 39-43; Fig. 1, elements 16, 18, 20; Fig. 2, element 34). *It should be noted that the "replicated servers" are analogous to the "one or more sites" and that the "I/O controllers" are analogous to the "data switch controllers."*

15. **As per claim 3**, the combination of Miller/Jaeger discloses said publishing a schedule of content transmission, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

16. **As per claim 4**, the combination of Miller/Jaeger discloses said publishing a schedule of content transmission, the schedule identifying the content by one or more times further comprises:

transmitting the schedule of content transmission over a sideband data communications link (Miller, col. 3, lines 1-2 and 63-67; col. 13, lines 4-9; Fig. 3, element 114).

17. **As per claim 9**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one hard disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

18. **As per claim 10**, the combination of Miller/Jaeger discloses said reading the at least one content from at least one hard disk drive further comprises:

reading substantially complete tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an outer track and ending with an inner track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

19. **As per claim 11**, the combination of Miller/Jaeger discloses said reading the at least one content from at least one hard disk drive further comprises:

reading substantially complete tracks of the at least one hard disk drive in a defined sequence including at least a sequence starting with an inner track and ending with an outer track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It*

should be noted that depending on the manufacturer, "track 1" could be the innermost track and "track N" could be the outermost track, and vice versa.

20. **As per claim 12**, the combination of Miller/Jaeger discloses said reading the at least one content from at least one hard disk drive further comprises:

reading the at least one content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

and reading a substantial duplicate of the at least one content from a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

21. **As per claim 13**, the combination of Miller/Jaeger discloses said reading the at least one content from at least one hard disk drive further comprises:

reading a first content from a first disk drive (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11)

and reading a second content a second disk drive (Jaeger, col. 6, lines 1-20 and 49-54; Fig. 1, element 11').

22. **As per claim 14**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a hard disk drive such that an aggregate distance traversed by a hard disk head is practicably minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "practicably minimize" the aggregate distance traversed by a disk drive head.*

23. **As per claim 15**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content of a spatial address device such that an aggregate time to read the at least one content of the spatial address device is practicably minimized (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11). *It should be noted that reading data tracks from the disk drive starting with track 1 and ending with track N will "practicably minimize" the aggregate time to read the data tracks of the disk drive.*

24. **As per claim 17**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

25. **As per claim 18**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one disk address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

26. **As per claim 19**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one file address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

27. **As per claim 20**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one substantially static memory address storage system (Jaeger, col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

28. **As per claim 21**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading the at least one content from at least one object address storage system (col. 5, lines 12-20 and 49-52; col. 2, lines 41-45; Fig. 1, element 11).

29. **As per claims 26-29, 34-40, and 42-46**, these system claims correspond to method claims 1-4, 9-15, and 17-21, respectively, and are therefore rejected under the same rationale as provided above.

30. **Claims 5-8 and 30-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger as applied to claim 1 above, and further in view of Eyer et al. (U.S. Patent 5,801,753) (hereinafter "Eyer").

31. **As per claim 5**, the combination of Miller/Jaeger discloses a temporal data storage system (Miller, col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger does not disclose transmitting the schedule of content transmission to the temporal data storage system.

Eyer discloses transmitting the schedule of content transmission to a memory (col. 5, line 62 – col. 6, line 23).

The combination of Miller/Jaeger and Eyer are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide Eyer's IPG stream to Miller/Jaeger's tape drives because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of an interactive guide that responds to user inquiries on an instantaneous or near instantaneous basis.

Therefore, it would have been obvious to combine Miller/Jaeger and Eyer for the benefit of obtaining the invention as specified in claim 5.

32. **As per claim 6**, the combination of Miller/Jaeger/Eyer discloses said transmitting the schedule of content transmission to the temporal data storage system further comprises:

interleaving the schedule of content with other data (Eyer, col. 15, lines 55-61).

33. **As per claim 7**, the combination of Miller/Jaeger/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule relative to at least one time marker amongst the at least one content (Eyer, col. 16, lines 45-58; Fig. 5).

34. **As per claim 8**, the combination of Miller/Jaeger/Eyer discloses said interleaving the schedule of content with other data further comprises:

transmitting the schedule amongst the at least one content at a determined interval of time (Eyer, col. 16, lines 45-58; Fig. 5).

35. **As per claims 30-33**, these system claims correspond to method claims 5-8, respectively, and are therefore rejected under the same rationale as provided above.

Claims 16, 22-25, 41, and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Jaeger as applied to claim 1 above, and further in view of Cho (U.S. Patent 6,081,402).

37. **As per claim 16**, the combination of Miller/Jaeger discloses said reading at least one content from at least one spatial data storage system in a fashion independent of the schedule of content transmission further comprises:

reading a storage of a hard disk drive with a hard drive arm having a disk drive head, said head is dedicated to at least one specific disk drive track (Jaeger, col. 5, lines 49-52; col. 2, lines 41-45; Fig. 1, element 11).

The combination of Miller/Jaeger does not disclose a hard drive arm having at least two disk drive heads.

Cho discloses a hard drive arm having at least two disk drive heads (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement Cho's multi-arm-track-per-head disk drive within Miller/Jaeger's recording system because all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

Therefore, it would have been obvious to combine Miller/Jaeger and Cho for the benefit of obtaining the invention as specified in claim 16.

38. **As per claim 22**, the combination of Miller/Jaeger discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-reclocking drive, the head of the second arm of the delay-reclocking drive being on a same track as the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions,

and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

Therefore, it would have been obvious to combine Miller/Jaeger and Cho for the benefit of obtaining the invention as specified in claim 22.

39. **As per claim 23**, the combination of Miller/Jaeger discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a head of a first arm and a head of a second arm (col. 11, lines 45-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that receiving a portion of the at least one content from the spatial data storage system with a delay-reclocking drive; writing the portion of the at least one content to the delay-reclocking drive with a head of a first arm of the delay-reclocking drive; reading the portion of the at least one content from the delay-reclocking drive with a head of a second arm of the delay-reclocking drive, the head of the second arm of the delay-reclocking drive being on a different track than the head of the first arm are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

Therefore, it would have been obvious to combine Miller/Jaeger and Cho for the benefit of obtaining the invention as specified in claim 23.

40. **As per claim 24**, the combination of Miller/Jaeger discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one content from the spatial data storage system with a delay-reclocking drive, writing the portion of

the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with a second head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

Therefore, it would have been obvious to combine Miller/Jaeger and Cho for the benefit of obtaining the invention as specified in claim 24.

41. **As per claim 25**, the combination of Miller/Jaeger discloses said transmitting the at least one content to a temporal data storage system in accord with the published schedule further comprises:

receiving a portion of the at least one content from the spatial data storage system with a buffer (Jaeger, col. 5, lines 52-58);

writing the portion of the at least one content to the buffer (Jaeger, col. 5, lines 52-58);

reading the portion of the at least one content from the buffer (Jaeger, col. 6, lines 1-26);

and transmitting the portion of the at least one content to the temporal data storage system (Miller, col. 3, lines 3-8; col. 13, lines 10-13; Fig. 3, element 116; col. 5, lines 39-48; Fig. 1, elements 16, 18, 20; Fig. 2, element 46).

The combination of Miller/Jaeger does not disclose a delay-reclocking drive as claimed by Applicant.

Cho discloses a delay-reclocking drive with a first head of a first arm and a second head of the first arm (col. 11, lines 48-50; Fig. 13).

The combination of Miller/Jaeger and Cho are analogous art because they are from the same field of endeavor, that being data transmission.

At the time of the invention it would have obvious to a person of ordinary skill in the art to substitute Miller/Jaeger's buffer as Cho's multi-arm-track-per-head disk drive (i.e. delay-reclocking drive) in a manner such that a portion of the at least one content from the spatial data storage system with a delay-reclocking drive, writing the portion of the at least one content to the delay-reclocking drive with a first head of a first arm of the delay-reclocking drive, and reading the portion of the at least one content from the delay-reclocking drive with the first head of the first arm of the delay-reclocking drive are accomplished by the combination, because the simple substitution of one known element (RAM buffer) for another (disk drive) would have yielded the predictable results of a more durable long-term storage of data. Also, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded the predictable results of providing multiple accesses to data tracks

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simultaneously to satisfy simultaneous external service requests as well as totally eliminating track seek times.

Therefore, it would have been obvious to combine Miller/Jaeger and Cho for the benefit of obtaining the invention as specified in claim 25.

42. As per claims 41 and 47-50, these system claims correspond to method claims 16 and 22-25, respectively, and are therefore rejected under the same rationale as provided above.

Conclusion

STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by MPEP 707.70(i):

CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-50 have received a first action on the merits and are subject of a first action non-final.

RELEVANT ART CITED BY THE EXAMINER

The following prior art made of record and not relied upon is cited to establish the level of skill in Applicant's art and those arts considered reasonably pertinent to Applicant's disclosure. See MPEP 707.05(e).

1. U.S. Patent 5,701,582 (DeBey) discloses a system and method of optimizing transmission of a program to multiple users over a distribution system, with particular

application to video-on-demand for a CATV network. The system includes, at a head end of the CATV network a scheduling and routing computer for dividing the video program stored in long term fast storage or short term fast storage into a plurality of program segments, and a subscriber distribution node for transmitting the program segments in a redundant sequence in accordance with a scheduling algorithm.

2. U.S. Patent 5,913,039 (Nakamura et al.) discloses an on-demand communication system provides a multimedia server connected to a plurality of clients via a network. A data stream can be transmitted in response to a transmission request of a title from a transmission device at the site of the client. The transmission device will transmit a set of reproduction information, including a plurality of titles and reproduction start times to the server along with the client identification. The server contemporarily would store, in a buffer, the reproduction information and the client identifier, read the reproduction information and the client identifier and then create a set of transmission information for each client request.

3. U.S. Patent 6,499,083 (Hamlin) discloses a disk-based storage system for storing a plurality of data segments responds to a direction-selection signal by autonomously providing the data segments in a selected sequence so as to be concatenated together to define a continuous data stream. The disk-based storage system comprises nonvolatile storage including rotating disk media having a plurality of addressable locations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arpan P. Savla whose telephone number is (571)272-1077. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Arpan Savla/
Examiner, Art Unit 2185
June 11, 2008

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